

2) a second host yeast cell wherein the second host yeast cell is (a) not capable of expressing said host yeast cell protein kinase or kinases and (b) is capable of expressing said protein kinase derivable from a source other than said host yeast cell and the effect of the compound on a phenotype of said first and second host yeast cells is measured, wherein either

(1) said host yeast cell is a pathogenic yeast and the source other than said host yeast cell is any source other than the host yeast cell or

(2) said host yeast cell is any yeast and the source other than said host yeast cell is not a mammal.

51. (New) A method of identifying a compound which modulates the activity to different extents of (a) a protein kinase derivable from a first source and (b) a protein kinase derivable from a second source, both said protein kinases being equivalent to the same host yeast cell protein kinase or kinases, wherein the compound is exposed to

1) a first host yeast cell wherein the first host yeast cell is (a) not capable of expressing said yeast cell protein kinase or kinases and (b) is capable of expressing said protein kinase derivable from the first source and

2) a second host yeast cell wherein the second host yeast cell is (a) not capable of expressing said yeast cell protein kinase or kinases and (b) is capable of expressing said protein kinase derivable from the second source and the effect of the compound on a phenotype of said first and second host yeast cells is measured.

52. (New) A method according to claim 50 wherein the host yeast cell other than the host yeast cell that is a pathogenic yeast is from the genera consisting of *Saccharomyces*, *Candida*, *Pichia*, *Kluyveromyces*, *Torulopsis*,

*Hansenula*, *Schizosaccharomyces*, *Citeromyces*, *Pachysolen*, *Debaromyces*, *Metschunikowia*, *Rhodospiridium*, *Leucosporidium*, *Botryoascus*, *Sporidiobolus*, *Endomycopsis*, *Aspergillus*, *Cryptococcus*, and *Histoplasma*.

53. (New) A method according to claim 52 wherein the host yeast cell other than the host yeast cell that is a pathogenic yeast is *Saccharomyces cerevisiae*, *Candida albicans*, *Aspergillus fumigatus*, *Cryptococcus neoformans*, or *Histoplasma capsulatum*.

54. (New) A method according to claim 50 wherein the yeast host cell which is not capable of expressing said host yeast cell protein kinase or kinases is substantially not capable of growing unless said yeast host cell is capable of expressing said protein kinase derivable from a source other than said host yeast cell that is equivalent to said host yeast cell protein kinase or kinases.

55. (New) A method according to claim 50 wherein the protein kinase derivable from a source other than said host yeast cell is a human protein kinase.

56. (New) A method according to claim 50, wherein said host yeast cell protein kinase or kinases is Pkh1 and/or Pkh2, wherein Pkh1 is the polypeptide encoded by open reading frame YDR490c of *S. cerevisiae* or equivalent open reading frame in yeast other than *S. cerevisiae* and Pkh2 is the polypeptide encoded by open reading frame YOL100w of *S. cerevisiae* or equivalent open reading frame in yeast other than *S. cerevisiae*.

57. (New) A method according to claim 51, wherein said protein kinases are PDK1.

58. (New) A method according to claim 50, wherein said host yeast cell protein kinase or kinases is Ypk1 and/or Yrk2.

59. (New) A method according to claim 50 wherein the said protein kinase equivalent to said host yeast cell protein kinase or kinases is serum and glucocorticoid induced protein kinase or protein kinase B.

60. (New) The method of claim 51 wherein the first source is a human and the second source is a pathogenic yeast selected from the genera consisting of *Candida spp*, *Blastomyces spp*, *Coccidioides spp*, *Histoplasma spp*, *Sporothrix spp*, *Aspergillus spp*, *A. flavus*, *A. niger*, *Phialophora compacta*, *P. pedrosoi*, *P. verrucosa*, *Cladosporium carrionii*, *Rhinocladiella aquaspersa*, *Cryptococcus spp*, *Cephalosporium spp*, *Fusarium spp*, *Histoplasma spp*, *Pneumocystis carinii*, *Rhizopus spp*, *Rhizomucor spp*, *Madurella spp*, *M. grisea*, *Pseudallescheria boydii*, *Paracoccidioides spp*, *Prototheca spp*, *Epidermophyton spp*, *Microsporum spp*, *Trichophyton spp* and *Malassezia spp*.

61. (New) The method of claim 52 wherein the second source is *B. dermatitidis*, *C. immitis*, *H. capsulatum*, *S. schenckii*, *A. fumigatus*, *C. neoformans*, *H. capsulatum*, *M. mycetomatis*, *P. brasiliensis*, *P. wickerhamii*, or *M. furfur*.

62. (New) A method of identifying a compound that modulates the activity of PDK1 derivable from a first source, wherein the compound is exposed to

1) a first host yeast cell wherein the first host yeast cell is (a) not capable of expressing a yeast polypeptide that is a functional equivalent of human PDK1 and (b) is capable of expressing PDK1 derivable from said first

source and, optionally,

2) a second host yeast cell wherein the second host yeast cell is capable of expressing a yeast polypeptide that is a functional equivalent of human PDK1 and the effect of the compound on the viability of said first or second host yeast cells is measured, and wherein the compound that affects the viability of said first host yeast cell, or, optionally, that affects the viability of said first host yeast cell and said second host yeast cell differently, is identified.

63. (New) A method of identifying a compound that modulates the activity of a functional equivalent of Ypk1 and/or Ykr2 derivable from a first source, wherein a compound is exposed to

1) a first host yeast cell wherein the first host yeast cell is (a) not capable of expressing a yeast polypeptide that is a functional equivalent of Ypk1 and/or Yrk2 and (b) is capable of expressing a functional equivalent of Ypk1 and/or Ykr2 derivable from the said first source and, optionally,

2) a second host yeast cell wherein the second host yeast cell is capable of expressing a yeast polypeptide that is a functional equivalent of Ypk1 and/or Yrk2 and the effect of the compound on the viability of said first or second host yeast cells is measured, and wherein the compound that affects the viability of said first host yeast cell, or, optionally, that affects the viability of said first host yeast cell and said second host yeast cell differently, is identified.

64. (New) A yeast cell that is not capable of expressing Pkh1 and Pkh2 or any functional equivalent thereof.

65. (New) A yeast cell that is not capable of expressing endogenous Pkh1 and/or Pkh2.

66. (New) A yeast cell according to claim 65 that is capable of expressing a functional equivalent of Pkh1 and/or Pkh2 that is not endogenous Pkh1 or Pkh2.

67. (New) The yeast cell of claim 66 wherein the said functional equivalent is human PDK1 or a variant, fusion or derivative thereof.

68. (New) A yeast cell according claim 64, wherein the open reading frame encoding Pkh1 or Pkh2 is disrupted by insertion of a selectable marker.

69. (New) A yeast cell wherein one or more genes encoding a functional equivalent of human PDK1 is mutated such that the yeast cell is not capable of expressing said functional equivalent of human PDK1.

70. (New) A yeast cell according to claim 69 wherein each such gene encoding a functional equivalent of human PDK1 is mutated such that the yeast cell is not capable of expressing a functional equivalent of human PDK1.

71. (New) A method according to claim 62, wherein the first host yeast cell is the yeast cell according to claim 66.

72. (New) A method according to claim 62, wherein the first host yeast cell is the yeast cell according to claim 68.

73. (New) A method according to claim 62, wherein the first host yeast cell is the yeast cell according to claim 70.

74. (New) The method of claim 62 wherein the PDK1

is mammalian PDK1.

75. (New) The method of claim 62 wherein the PDK1 is a yeast PDK1.

76. (New) The method of claim 62 wherein the PDK1 is Candida PDK1.

77. (New) A protein kinase derivable from yeast capable of phosphorylating a polypeptide comprising the consensus sequence Arg-Xaa-Arg-Xaa-Xaa-(Ser/Thr)-Hyd.

78. (New) A protein kinase derivable from yeast capable of being phosphorylated by Pkh1 or Pkh2 or PDK1.

79. (New) A protein kinase according to claim 77 wherein the said protein kinase is Ypk1 from *S. cerevisiae* or equivalent open reading frame in yeast other than *S. cerevisiae*, or Ykr2 from *S. cerevisiae* or equivalent open reading frame in yeast other than *S. cerevisiae*.

80. (New) A variant, derivative, fragment or fusion or a fusion of a variant, derivative or fragment of a protein kinase according to claim 79 that is capable of being phosphorylated by Pkh1 or Pkh2 or mammalian, preferably human, PDK1 and/or capable of phosphorylating a polypeptide comprising the consensus sequence Arg-Xaa-Arg-Xaa-Xaa-Ser/Thr-Hyd.

81. (New) A yeast cell wherein one or more endogenous genes encoding a functional equivalent of human SGK is mutated such that the yeast cell is not capable of expressing said functional equivalent of human SGK.

82. (New) A yeast cell according to claim 81

wherein said gene is Ypk1 or Yrk2.

83. (New) A yeast cell according to claim 81 wherein each such endogenous gene encoding a functional equivalent of human SGK or Ypk1 or Yrk2 is mutated such that the yeast cell is not capable of expressing an endogenous functional equivalent of, for example, human SGK or Ypk1 or Yrk2.

84. (New) A method of identifying a compound which blocks the activation of a polypeptide that is a functional equivalent of Ypk1 and/or Ykr2 and is not SGK, PKBa or p70S6 kinase by an interacting polypeptide, the method comprising

determining whether the compound enhances or disrupts the interaction between (a) a polypeptide that is a functional equivalent of Ypk1 and/or Ykr2 that is not SGK, PKBa or p70S6 kinase or a suitable fragment, variant, derivative or fusion thereof or a suitable fusion of a fragment, variant or derivative and (b) the interacting polypeptide, or a suitable variant, derivative, fragment or fusion thereof or a suitable fusion of a variant, derivative or fragment, or

determining whether the compound substantially blocks activation of the said polypeptide that is a functional equivalent of Ypk1 and/or Ykr2 or a suitable variant, fragment, derivative or fusion thereof, or a fusion of said fragment, derivative or fusion by the interacting polypeptide, or a suitable variant, derivative, fragment or fusion thereof.

85. A kit of parts comprising

a first host yeast cell wherein the first host yeast cell is (a) not capable of expressing a yeast cell protein kinase or kinases and (b) is capable of expressing a protein kinase derivable from a source other than the first host yeast cell and

a second host yeast cell wherein the second host

yeast cell is (a) not capable of expressing said yeast cell protein kinase or kinases and (b) is capable of expressing said protein kinase derivable from an source other than the first host yeast cell.

86. (New) A method according to claim 50, wherein the compound is capable of inhibiting mammalian PDK1 or SGK.

87. (New) A method according to claim 50, wherein the compound is capable of inhibiting a fungal functional equivalent of PDK1 or SGK.

88. (New) A compound which inhibits the activity of mammalian PDK1 or SGK.

89. (New) A medicament comprising the compound according to claim 88.

90. (New) A method of treating a fungal infection comprising

applying the compound of claim 88 to the skin of a patient in an amount effective to treat the fungal infection.

91. (New) A substantially pure polypeptide encoded by open reading frame YDR490c of *S. cerevisiae* or equivalent open reading frame in yeast other than *S. cerevisiae* or a variant, fragment, fusion or derivative thereof, or a fusion of said variant or fragment or derivative.

92. (New) A substantially pure polypeptide encoded by open reading frame YOL100w of *S. cerevisiae* or equivalent open reading frame in yeast other than *S. cerevisiae*. or a variant, fragment, fusion or derivative thereof, or a fusion of said variant or fragment or derivative wherein the



polypeptide does not comprise the amino acid sequence of human PDK1 or Drosophila PDK1 (DSTPK61).

93. (New) A recombinant polynucleotide suitable for expressing a polypeptide according to claim 91.

94. (New) A recombinant polynucleotide suitable for expressing a polypeptide according to claim 92.

95. (New) A host cell comprising a recombinant polynucleotide according to claim 93.

96. (New) A host cell comprising a recombinant polynucleotide according to claim 94.

97. A method of making a polypeptide, or a variant, fragment, derivative or fusion thereof or fusion of said variant or fragment or derivative, the method comprising culturing a host cell according to claim 95 which expresses said polypeptide, or a variant, fragment, derivative or fusion thereof or fusion of said variant or fragment or derivative and isolating said polypeptide or a variant, fragment, derivative or fusion thereof or fusion of said variant, or fragment or derivative.

98. A method of making a polypeptide, or a variant, fragment, derivative or fusion thereof or fusion of said variant or fragment or derivative, the method comprising culturing a host cell according to claim 96 which expresses said polypeptide, or a variant, fragment, derivative or fusion thereof or fusion of said variant or fragment or derivative and isolating said polypeptide or a variant, fragment, derivative or fusion thereof or fusion of said variant, or fragment or derivative.